

SEQUENCE LISTING

<110> Taylor, Diane
 Wang, Ge
 Palcic, Monica

<120> ALPHA 1,2-FUCOSYLTRANSFERASE

<130> 07254-061002

<140> US 09/848,838
 <141> 2001-05-03

<150> US 09/433,598
 <151> 1999-11-02

<150> US 60/107,268
 <151> 1998-11-04

<160> 23

<170> FastSEQ for Windows Version 4.0

<210> 1
 <211> 1119
 <212> DNA
 <213> Helicobacter pylori

<220>
 <221> CDS
 <222> (137) ... (1036)

<400> 1
 gaacactcac acgcgtcttt ttcaaataaa aaattcaaat gatttgaag cgttacccca
 ctttttaggc ttttattgaa aaaggcctt aaaggcgtt aaaataggcg ttttatttga
 aaaacaaaagg gggttga atg gct ttt aaa gtg gtg caa att tgt ggg ggg ctt
 Met Ala Phe Lys Val Val Gln Ile Cys Gly Gly Leu
 1 5 10

60
 120
 172

ggg aat caa atg ttt caa tac gct ttc gct aaa agt ttg caa aaa cac
 Gly Asn Gln Met Phe Gln Tyr Ala Phe Ala Lys Ser Leu Gln Lys His
 15 20 25

220

ctt aat acg ccc gtg cta tta gac act act tct ttt gat tgg agc aat
 Leu Asn Thr Pro Val Leu Leu Asp Thr Ser Phe Asp Trp Ser Asn
 30 35 40

268

agg aaa atg caa tta gag ctt ttc cct att gat ttg ccc tat gcg aat
 Arg Lys Met Gln Leu Glu Leu Phe Pro Ile Asp Leu Pro Tyr Ala Asn
 45 50 55 60

316

gca aaa gaa atc gct ata gct aaa atg caa cat ctc ccc aag tta gta
 Ala Lys Glu Ile Ala Ile Ala Lys Met Gln His Leu Pro Lys Leu Val
 65 70 75

364

aga gat gca ctc aaa tac ata gga ttt gat agg gtg agt caa gaa atc

412

| | | | |
|---|-----|-----|------|
| Arg Asp Ala Leu Lys Tyr Ile Gly Phe Asp Arg Val Ser Gln Glu Ile | | | |
| 80 | 85 | 90 | |
| gtt ttt gaa tac gag cct aaa ttg tta aag cca agc cgt ttg act tat | | | 460 |
| Val Phe Glu Tyr Glu Pro Lys Leu Leu Lys Pro Ser Arg Leu Thr Tyr | | | |
| 95 | 100 | 105 | |
| ttt ttt ggc tat ttc caa gat cca cga tat ttt gat gct ata tcc tct | | | 508 |
| Phe Phe Gly Tyr Phe Gln Asp Pro Arg Tyr Phe Asp Ala Ile Ser Ser | | | |
| 110 | 115 | 120 | |
| tta atc aag caa acc ttc act cta ccc ccc ccc gaa aat aat aat aat | | | 556 |
| Leu Ile Lys Gln Thr Phe Thr Leu Pro Pro Pro Glu Asn Asn Lys | | | |
| 125 | 130 | 135 | 140 |
| aat aat aat aat aat aat gag gaa gaa tac cag cgc aag ctt tct ttg att | | | 604 |
| Asn Asn Asn Lys Lys Glu Glu Glu Tyr Gln Arg Lys Leu Ser Leu Ile | | | |
| 145 | 150 | 155 | |
| tta gcc gct aaa aac agc gta ttt gtg cat ata aga aga ggg gat tat | | | 652 |
| Leu Ala Ala Lys Asn Ser Val Phe Val His Ile Arg Arg Gly Asp Tyr | | | |
| 160 | 165 | 170 | |
| gtg ggg att ggc tgt cag ctt ggt att gat tat caa aaa aag gcg ctt | | | 700 |
| Val Gly Ile Gly Cys Gln Leu Gly Ile Asp Tyr Gln Lys Lys Ala Leu | | | |
| 175 | 180 | 185 | |
| gag tat atg gca aag cgc gtg cca aac atg gag ctt ttt gtg ttt tgc | | | 748 |
| Glu Tyr Met Ala Lys Arg Val Pro Asn Met Glu Leu Phe Val Phe Cys | | | |
| 190 | 195 | 200 | |
| gaa gac tta aaa ttc acg caa aat ctt gat ctt ggc tac cct ttc acg | | | 796 |
| Glu Asp Leu Lys Phe Thr Gln Asn Leu Asp Leu Gly Tyr Pro Phe Thr | | | |
| 205 | 210 | 215 | 220 |
| gac atg acc act agg gat aaa gaa gaa gag gcg tat tgg gat atg ctg | | | 844 |
| Asp Met Thr Thr Arg Asp Lys Glu Glu Ala Tyr Trp Asp Met Leu | | | |
| 225 | 230 | 235 | |
| ctc atg caa tct tgc aag cat ggc att atc gct aat agc act tat agc | | | 892 |
| Leu Met Gln Ser Cys Lys His Gly Ile Ile Ala Asn Ser Thr Tyr Ser | | | |
| 240 | 245 | 250 | |
| tgg tgg gcg gct tat ttg atg gaa aat cca gaa aaa atc att att ggc | | | 940 |
| Trp Trp Ala Ala Tyr Leu Met Glu Asn Pro Glu Lys Ile Ile Ile Gly | | | |
| 255 | 260 | 265 | |
| ccc aaa cac tgg ctt ttt ggg cat gaa aat att ctt tgt aag gaa tgg | | | 988 |
| Pro Lys His Trp Leu Phe Gly His Glu Asn Ile Leu Cys Lys Glu Trp | | | |
| 270 | 275 | 280 | |
| gtg aaa ata gaa tcc cat ttt gag gta aaa tcc caa aaa tat aac gct | | | 1036 |
| Val Lys Ile Glu Ser His Phe Glu Val Lys Ser Gln Lys Tyr Asn Ala | | | |
| 285 | 290 | 295 | 300 |
| taaagcggct taaaaaaaaagg gcttaactaga ggtttaatct ttgatttag atcggatttc | | | 1096 |
| tttatagcga gcgtctaatt cta | | | 1119 |

<210> 2
 <211> 300
 <212> PRT
 <213> Helicobacter pylori

<4.0> 2
 Met Ala Phe Lys Val Val Gln Ile Cys Gly Gly Leu Gly Asn Gln Met
 5 10 15
 1
 phe Gln Tyr Ala Phe Ala Lys Ser Leu Gln Lys His Leu Asn Thr Pro
 20 25 30
 Val Leu Leu Asp Thr Thr Ser Phe Asp Trp Ser Asn Arg Lys Met Gln
 35 40 45
 Leu Glu Leu Phe Pro Ile Asp Leu Pro Tyr Ala Asn Ala Lys Glu Ile
 50 55 60
 Ala Ile Ala Lys Met Gln His Leu Pro Lys Leu Val Arg Asp Ala Leu
 65 70 75 80
 Lys Tyr Ile Gly Phe Asp Arg Val Ser Gln Glu Ile Val Phe Glu Tyr
 85 90 95
 Glu Pro Lys Leu Leu Lys Pro Ser Arg Leu Thr Tyr Phe Phe Gly Tyr
 100 105 110
 Phe Gln Asp Pro Arg Tyr Phe Asp Ala Ile Ser Ser Leu Ile Lys Gln
 115 120 125
 Thr Phe Thr Leu Pro Pro Pro Glu Asn Asn Lys Asn Asn Asn Lys
 130 135 140
 Lys Glu Glu Glu Tyr Gln Arg Lys Leu Ser Leu Ile Leu Ala Ala Lys
 145 150 155 160
 Asn Ser Val Phe Val His Ile Arg Arg Gly Asp Tyr Val Gly Ile Gly
 165 170 175
 Cys Gln Leu Gly Ile Asp Tyr Gln Lys Ala Leu Glu Tyr Met Ala
 180 185 190
 Lys Arg Val Pro Asn Met Glu Leu Phe Val Phe Cys Glu Asp Leu Lys
 195 200 205
 Phe Thr Gln Asn Leu Asp Leu Gly Tyr Pro Phe Thr Asp Met Thr Thr
 210 215 220
 Arg Asp Lys Glu Glu Glu Ala Tyr Trp Asp Met Leu Leu Met Gln Ser
 225 230 235 240
 Cys Lys His Gly Ile Ile Ala Asn Ser Thr Tyr Ser Trp Trp Ala Ala
 245 250 255
 Tyr Leu Met Glu Asn Pro Glu Lys Ile Ile Ile Gly Pro Lys His Trp
 260 265 270
 Leu Phe Gly His Glu Asn Ile Leu Cys Lys Glu Trp Val Lys Ile Glu
 275 280 285
 Ser His Phe Glu Val Lys Ser Gln Lys Tyr Asn Ala
 290 295 300

<210> 3
 <211> 19
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetically generated oligonucleotide

<400> 3
 gaacactcac acgcgtctt

<210> 4
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetically generated oligonucleotide

<400> 4
tagaattaga cgctcgctat

20

<210> 5
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetically generated oligonucleotide

<400> 5
cggagggctt gggaaatcaa

19.

<210> 6
<211> 231
<212> DNA
<213> Helicobacter pylori

<400> 6
tatatccct ttaatcaagc aaaccttcac tctacccccc ccccccccgaa aaataataag
aataataata aaaaagagga agaatatccg tgcaagctt ctttgatttt agccgtaaa
aacagcgtgt ttgtcatat aagaagaggg gattatgtgg ggattggctg tcagcttggt
attgactatc aaaaaaaggc gcttgagat atggcaaagc gtgcacaaaca t

60

120

180

231

<210> 7
<211> 230
<212> DNA
<213> Helicobacter pylori

<400> 7
tatatccct ttaatcaagc aaaccttcac tctacccccc cccccccgaaa ataataaaaa
taataataaa aaagaggaag aataccagcg caagcttct ttgattttag ccgcataaaaa
cagcgtattt gtgcataataa gaagagggga ttatgtggga ttggctgtca gcttggatt
gattatcaaa aaaaggcgct tgagtatatg gcaaagcgcg tgccaaacat

60

120

180

230

<210> 8
<211> 60
<212> RNA
<213> Helicobacter pylori

<400> 8
uaauuaagaau aauaaauaaaa aagaggaaga auaucagugc aagcuuucuu ugauuuuagc

60

<210> 9
<211> 11
<212> PRT
<213> Homo sapiens

<400> 9
Gly Arg Phe Gly Asn Gln Met Gly Gln Tyr Ala
1 5 10

<210> 10
<211> 11
<212> PRT
<213> Homo sapiens

<400> 10
Gly Arg Leu Gly Asn Gln Met Gly Glu Tyr Ala
1 5 10

<210> 11
<211> 11
<212> PRT
<213> Helicobacter pylori

<400> 11
Gly Gly Leu Gly Asn Gln Met Phe Gln Tyr Ala
1 5 10

<210> 12
<211> 11
<212> PRT
<213> Yersinia enterocolitica

<400> 12
Gly Gly Leu Gly Asn Gln Leu Phe Gln Val Ala
1 5 10

<210> 13
<211> 11
<212> PRT
<213> Lactococcus lactis

<400> 13
Gly Asn Leu Gly Asn Gln Leu Phe Ile Tyr Ala
1 5 10

<210> 14
<211> 11
<212> PRT
<213> Homo sapiens

<400> 14
Val Gly Val His Val Arg Arg Gly Asp Tyr Leu
1 5 10

<210> 15
<211> 11
<212> PRT
<213> Homo sapiens

<400> 15
Val Gly Val His Val Arg Arg Gly Asp Tyr Val
1 5 10

<210> 16
<211> 11
<212> PRT
<213> Helicobacter pylori

<400> 16
Val Phe Val His Ile Arg Arg Gly Asp Tyr Val
1 5 10

<210> 17
<211> 11
<212> PRT
<213> Yersinia enterocolitica

<400> 17
Val Gly Ile His Ile Arg Arg Gly Asp Phe Val
1 5 10

<210> 18
<211> 11
<212> PRT
<213> Lactococcus lactis

<400> 18
Ile Cys Val Ser Ile Arg Arg Gly Asp Tyr Val
1 5 10

<210> 19
<211> 10
<212> PRT
<213> Homo sapiens

<400> 19
Gly Thr Phe Gly Phe Trp Ala Ala Tyr Leu
1 5 10

<210> 20
<211> 10
<212> PRT
<213> Homo sapiens

<400> 20
Gly Thr Phe Gly Ile Trp Ala Ala Tyr Leu
1 5 10

<210> 21
<211> 10
<212> PRT
<213> Helicobacter pylori

<400> 21
Ser Thr Tyr Ser Trp Trp Ala Ala Tyr Leu
1 5 10

<210> 22
<211> 10

<212> PRT

<213> Yersinia enterocolitica

<400> 22

Ser Thr Phe Ser Trp Trp Ala Ala Ile Leu
1 5 10

<210> 23

<211> 10

<212> PRT

<213> Lactococcus lactis

<400> 23

Ser Ser Phe Ser Trp Trp Thr Glu Phe Leu
1 5 10